

Fatek FBs-20MAT2-AC (FBs-20MAT)

Fatek FBs-20MAT2-AC PLC Controller User Manual

Model: FBs-20MAT2-AC (FBs-20MAT)

1. INTRODUCTION

The Fatek FBs-20MAT2-AC Programmable Logic Controller (PLC) is an advanced industrial control device designed for automation tasks. It features a user-friendly and readable multi-input/multi-output function structure, allowing for complex functionalities with fewer instructions compared to other PLC brands. This manual provides essential information for the proper installation, operation, and maintenance of your FBs-20MAT2-AC controller.

2. PRODUCT OVERVIEW



This image displays the Fatek FBs-20MAT2-AC Programmable Logic Controller. It features clearly labeled input (X) and output

(Y) terminals, power input (AC100-240V), and status indicator LEDs for Power, Run, and Error. The model number FBs-20MA is visible on the front panel, along with TX/RX indicators for communication.

3. SETUP AND INSTALLATION

3.1 Power Supply Connection

The FBs-20MAT2-AC controller operates on a **100~240VAC** power supply. Ensure the power source matches these specifications before connecting. Connect the AC power lines to the designated 'L' and 'N' terminals on the controller. Always ensure power is disconnected during wiring to prevent electrical shock.

3.2 Digital Input/Output Wiring

The controller features **12 points of 24VDC digital input** (up to 10KHz in 4 points) and **8 points of Sink (NPN) transistor digital output** (4 points 10KHz output). Refer to the terminal labels (X0-X13 for inputs, Y0-Y9 for outputs) for correct wiring. Ensure all connections are secure and follow industrial wiring standards.

3.3 Communication Port

The FBs-20MAT2-AC includes **1 built-in RS-232 port**, which can be expanded up to 3 ports. This port is used for programming and communication with other devices. Connect your programming cable or communication device to the RS-232 port (labeled 'PORTO').

3.4 Mounting

Mount the PLC in a stable, well-ventilated enclosure, away from excessive heat, moisture, and electromagnetic interference. Ensure adequate space for wiring and heat dissipation.

4. OPERATING INSTRUCTIONS

4.1 Programming Software

The PLC is programmed using the **WinProLadder** ladder programming tool. This software can be downloaded from the official Fatek website at no extra charge. Install the software on your computer and connect to the PLC via the RS-232 port to upload or download programs.

4.2 Basic Operation

1. **Power On:** After connecting the power supply, the 'POW' indicator LED should illuminate.
2. **Run Mode:** Once a program is loaded and the PLC is set to run mode, the 'RUN' indicator LED will illuminate, indicating active program execution.
3. **Error Indication:** If an error occurs, the 'ERR' indicator LED will illuminate. Refer to the troubleshooting section for common error resolutions.
4. **Communication:** The 'TX' and 'RX' LEDs indicate data transmission and reception activity on the communication port.

5. MAINTENANCE

Regular maintenance ensures the longevity and reliable operation of your PLC. Always disconnect power before performing any maintenance.

- **Cleaning:** Keep the PLC and its enclosure clean and free from dust and debris. Use a soft, dry cloth for cleaning. Avoid using liquid cleaners or solvents.
- **Environmental Control:** Ensure the operating environment adheres to the specified temperature and humidity ranges. Protect the unit from excessive vibrations and corrosive gases.
- **Connection Checks:** Periodically inspect all wiring connections for tightness and signs of corrosion or damage.
- **Firmware Updates:** Check the Fatek website for any available firmware updates that may improve performance or address issues.

6. TROUBLESHOOTING

This section provides guidance for common issues. For complex problems, contact technical support.

- **No Power (POW LED Off):**
 - Check the AC power supply connection and ensure it is within the 100~240VAC range.
 - Verify the power cable is securely connected to the PLC and the power outlet.
 - Check for blown fuses in the power circuit.
- **PLC Not Running (RUN LED Off, POW LED On):**
 - Ensure a valid program is loaded into the PLC.
 - Check if the PLC is in 'STOP' mode. Use WinProladder to switch to 'RUN' mode.
 - Verify there are no critical errors indicated by the 'ERR' LED.
- **Error Indication (ERR LED On):**
 - Connect to the PLC using WinProladder software to view the error code and description.
 - Common errors include program syntax errors, I/O module faults, or memory issues.
 - Consult the WinProladder software manual for specific error code interpretations.
- **Communication Issues (TX/RX LEDs Inactive):**
 - Verify the RS-232 cable connection is secure and correct.
 - Check the communication settings (baud rate, data bits, parity, stop bits) in WinProladder and ensure they match the PLC's settings.
 - Ensure the correct COM port is selected on your computer.
- **Input/Output Malfunction:**
 - Verify wiring for the specific input/output points.
 - Check the status of the input devices (sensors, switches) and output devices (relays, indicators).
 - Use WinProladder to monitor the real-time status of I/O points to diagnose the issue.

7. SPECIFICATIONS


Feature	Specification
Model Number	FBs-20MAT2-AC (FBs-20MAT)
Digital Inputs	12 points, 24VDC (up to 10KHz in 4 points)
Digital Outputs	8 points, Sink (NPN) transistor (4 points 10KHz output)
Communication Ports	1 built-in RS-232 (expandable up to 3)
Power Supply	100~240VAC
Certifications	UL certified
Package Dimensions	4.5 x 4 x 4 inches
Item Weight	1.01 Pounds
Country of Origin	Taiwan
Voltage	240 Volts (AC)
Display Type	LCD or LED
Operating Temperature	20 Degrees Celsius
UPC	687965401068

8. WARRANTY AND SUPPORT

For information regarding product warranty, technical support, or service, please refer to the documentation provided with your purchase or contact the manufacturer directly. The seller for this product is **Fatek USA**. You may also visit the official Fatek website for additional resources and contact information.

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Related Documents - FBs-20MAT2-AC (FBs-20MAT)




FBS - Series Programmable Logic Controller

- Cutting edge PLC
- State of the art technology
- Compact & Powerful
- Extensive product range
- Reliable & Durable

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[FATEK FBS-Series Programmable Logic Controllers - Datasheet and Specifications](#)

Comprehensive datasheet for FATEK FBS-Series Programmable Logic Controllers (PLCs), detailing features, technical specifications, communication capabilities, expansion modules, and model information. Includes core technology, user-friendly features, advanced control options, and a detailed model list.

 <p>FATEK The Brand You Can Rely on</p> <p>FBs-Series Programmable Logic Controller</p> <ul style="list-style-type: none">• Cutting edge PLC• State of the art technology• Compact & Powerful• Extensive product range• Reliable & Durable <p>www.fatek.com</p>	<p>FATEK FBs-Series PLC: Advanced Programmable Logic Controllers for Industrial Automation</p> <p>Explore the FATEK FBs-Series Programmable Logic Controllers (PLCs), featuring cutting-edge SoC technology, extensive communication options, high-speed processing, and integrated PLC & NC control for robust industrial automation solutions. Discover detailed specifications, features, and model information.</p>
<p>FBs-CM25/CM55/CBE</p> <p>Ethernet Module</p> <p>User's Manual</p> <p>Rev. 4.1</p> <p>Fatek Automation Corp.</p> <p>F11086</p> <p>PLC10</p>	<p>Fatek FBs-CM25/CM55/CBE Ethernet Module User's Manual</p> <p>User's manual for the Fatek FBs-CM25/CM55/CBE Ethernet Module, detailing specifications, hardware installation, software configuration, and communication protocols for industrial automation.</p>
<p>Load Cell Input Module</p> <p>PLC10</p>	<p>FATEK FBs-1LC/FBs-2LC Load Cell Input Module: Specifications & Configuration Guide</p> <p>Comprehensive guide to FATEK FBs-1LC and FBs-2LC analog input modules for PLCs. Covers specifications, installation, configuration, register mapping, and wiring for accurate weight measurement.</p>
<p>FATEK FBs-W2C</p> <p>Wi-Fi Module</p> <p>PLC10</p>	<p>FATEK FBs-W2C Wi-Fi Communication Module User Manual</p> <p>This manual provides detailed information on the FATEK FBs-W2C Wi-Fi communication module for PLCs, covering its features, specifications, installation, network setup using PLC interface or Smart Config, firmware updates via OTA, network time synchronization (SNTP), and the W2C Configurator software. It includes appendices with register configurations, timezone information, and access point compatibility.</p>
<p>FATEK</p> <p>M Series</p> <p>M-PLC Instruction User Manual</p> <p>PLC10</p>	<p>FATEK M-PLC Instruction User Manual: Comprehensive Guide to Programmable Controllers</p> <p>Explore the FATEK M-PLC Instruction User Manual for detailed guidance on programmable controller operations, ladder diagram programming, and automation solutions. Learn about M Series PLC features and functionalities.</p>